Amendments to the Claims:

The following Listing of Claims will replace all prior versions and listings of claims in the above-identified patent application.

Listing of Claims:

1. (Currently Amended) A method for automatic association of moving target indications from at least one entity traveling along a known route, comprising:

identifying a route within a detectable range of a moving target indicator radar;

using the moving target indicator radar to detect a plurality of ~~moving target~~ indication data of at least one moving target;

selecting the moving target indication data proximate to the identified route;

presenting the selected moving target indication data in a distance-time coordinate, such that each selected moving target indication data has a unique distance value and a unique time value;

transforming the moving target indication data from the distance-time coordinate to a slope-distance intercept coordinate, such that co-linear moving target indication data in the distance-time coordinate are transformed into a plurality of points superposed together with a substantially identical slope value and a nearly identical distance intercept value;

mapping the single point back to the distance-time coordinate; and

associating the moving target indication data corresponding to the single point to a single entity.

2. (Original) The method as recited in Claim 1, wherein the step of selecting the moving target indication data further comprises:

predefining a proximity of the identified route; and

filtering the moving target indication data located beyond the proximity.

3. (Original) The method as recited in Claim 1, wherein the step of selecting the moving target indication data further comprises:

predetermining a proximate distance to the identified route; and

filtering the moving target indication data spaced from the identified route by a distance larger than the proximate distance.

4. (Original) The method as recited in Claim 1, wherein the step of transforming the moving target indication data includes performing Hough transform thereon.

5. (Original) The method as recited in Claim 1, further comprising a step of presenting the associated moving target indication data in an animated display.

6. (Original) The method as recited in Claim 1, further comprising:

predetermining a threshold number of the superposed points; and

eliminating the superposed points when a number thereof is smaller than the threshold number.

7. (Original) The method as recited in Claim 1, wherein the route is substantially straight.

8. (Currently Amended) The method as recited in Claim 1 ~~8~~, wherein the entities travels along the identified route with a constant speed.

9. (Currently Amended) A method for automatic association of moving target indications from a plurality of entities traveling along a route, comprising:

identifying a route of interest;

detecting a plurality of ~~moving target~~ indication data of at least one moving target;

selecting only the moving target indication data detected from the entities traveling within a proximity of the identified route;

calculating distance of the selected moving target indication data along the identified route in each instant of time;

performing Hough transform on the distance data to create a plurality of accumulated cells in a space of Hough transform in response to a plurality sets of co-linear distance data, wherein each accumulated cell has an intensity proportional to the number of the co-linear distance data of the corresponding set; and

dereferencing the moving target indication data corresponding to each entity moving along the identified route.

10. (Original) The method as recited in Claim 9, further comprises using a moving target indication radar for detecting the moving target indication data.

11. (Original) The method as recited in Claim 9, wherein the step of selecting the moving target indication data further comprises:

predefining the proximity; and

filtering the moving target indication data located beyond the proximity.

12. (Original) The method as recited in Claim 9, wherein the step of selecting the moving target indication data further comprises:

predetermining a proximate distance to the identified route; and

filtering the moving target indication data spaced from the identified route by a distance larger than the proximate distance.

13. (Original) The method as recited in Claim 9, wherein the step of dereferencing the moving target indication data further comprises mapping the accumulation cells with the corresponding set of distance data.

14. (Original) The method as recited in Claim 13, further comprising a step of identifying the moving target indication data detected from each of the entity.

15. (Original) The method as recited in Claim 9, further comprising a step of presenting the dereferenced moving target indication data in an animated display.

16. (Original) The method as recited in Claim 9, further comprising:

predetermining a threshold intensity; and

eliminating the accumulation cells with an intensity smaller than the threshold intensity.

17. (Original) The method as recited in Claim 9, wherein the identified route is substantially straight.

18. (Original) The method as recited in Claim 9, wherein each the entities traveling along the identified route has a respective constant speed.

19. (Currently Amended) A method for automatic association of moving target indications from entities traveling along a route, comprising:

identifying a route;

detecting a plurality of ~~moving target~~ indication data of at least one moving target;

selecting the moving target indication data obtained from entities traveling within a proximity of the identified route;

deriving a physical characteristic from the selected moving target indication data at each instant of time;

performing Hough transform on the physical characteristic to create an accumulation array; and

dereferencing the moving target indication data corresponding to the accumulation array.

20. (Currently Amended) A method for automatic association of moving target indications from at least one entity traveling along a known route, comprising:

identifying a route within a detectable range of a moving target indicator radar;

using the moving target indicator radar to detect a plurality of ~~moving target~~ indication data of at least one moving target;

selecting the moving target indication data proximate to the identified route;

deriving velocity information and initial traveling time instant for each selected moving target indication data; and

associating the selected moving target indication data that have the same velocity and initial traveling time instant to a single entity.

21. (Original) The method as claimed in Claim 20, wherein the step of deriving velocity information and initial traveling time instant for each selected moving target indication data comprises presenting the selected moving target indication data in a distance-time coordinate, such that each of the selected moving target indication data has a unique distance at each time instant.

22. (Original) The method as claimed in Claim 21, wherein the step of associating the selected moving target indication data comprises transforming the

selected moving target indication data from the distance-time coordinate into a velocity-initial traveling time coordinate, such that the selected moving target indication data having the same velocity and initial traveling time are transformed into a plurality of points superposed together.

23. (Original) The method as claimed in Claim 21, wherein the step of transforming the selected moving target indication data comprises performing Hough transform.

24. (Original) The method as claimed in Claim 21, further comprising detecting a convoy of entities by identifying a group of parallel lines in the equally-spaced distance-time coordinate.

25. (Original) The method as claimed in Claim 24, wherein the group of parallel eually-spaced lines includes a plurality of points in Hough Space.